

Amendments to the claims:

1-36. (Cancelled).

37. (Currently amended) A construct for insertion into a host organism to generate a transgenic organism to be used as a feed supplement for an animal, said construct being prepared by placing a nucleic acid polymer encoding a polypeptide ordinarily exogenous to said organism under control of a promoter, with said construct selected from the group consisting of plasmids, cosmids, phagemids, and artificial chromosomes, said polypeptide comprising a plurality of amino acid residues, ~~the amino acid composition of said polypeptide including means for supplementing an animal diet according to the particular nutritional needs of the animal, the nutritional needs of the animal being ascertained by a feed analysis to determine the amino acid deficiency of the animal fed with a certain feed~~ the following amino acid: lysine, methionine/cysteine, threonine, valine, isoleucine, histidine; and tryptophan, in a ratio of 6 : 3: 2 : 1 : 2 : 6 : 1, wherein methionine/cysteine may be either methionine or cysteine.

38. (Original) The construct of claim 37 wherein said construct is a pRS316 plasmid with a GAPDH promoter.

39-42. (Cancelled).

43. (Currently amended) A method for producing an improved animal feed ~~a yeast additive for supplementing the diet of an animal according to the particular nutritional needs of said animal, use in animal feed~~ said method comprising, ~~inserting the construct of claim 37 into a yeast strain, expressing the gene in said construct to produce a peptide~~ the steps of:
(a) ascertaining the nutritional needs of the animal by a feed analysis to determine the amino acid deficiency of the animal fed with a conventional feed,
(b) inserting a construct into a yeast strain, said construct being prepared by placing a nucleic acid polymer encoding a polypeptide on a vector, wherein said polypeptide is ordinarily exogenous to said yeast strain, and the amino acid composition of said polypeptide includes

means for supplementing an animal diet according to the particular nutritional needs of the animal,

(c) allowing expression of the nucleic acid polymer in said construct to produce a polypeptide, and

(d) mixing said polypeptide with said conventional feed to form the improved animal feed.

44. (Currently amended) A transformed yeast strain to be used as a feed supplement for an animal, said transformed yeast strain being prepared by introducing into a host strain a nucleic acid polymer encoding a polypeptide under control of a promoter, ~~The transformed yeast strain of claim 29, wherein~~ said nucleic acid polymer, when expressed, producing ~~produces~~ a polypeptide comprising the following amino acid units: lysine, methionine/cysteine, threonine, valine, isoleucine, arginine, and tryptophan, in a ratio of 100 : 60 : 60 : 75 : 60 : 80 : 20, wherein methionine/cysteine may be either methionine or cysteine.

45. (Cancelled)

46. (Currently amended) A transformed yeast strain to be used as a feed supplement for an animal, said transformed yeast strain being prepared by introducing into a host strain a nucleic acid polymer encoding a polypeptide under control of a promoter, ~~The transformed yeast strain of claim 29, wherein~~ said nucleic acid polymer, when expressed, producing ~~produces~~ a polypeptide comprising the following amino acid units: lysine, methionine/cysteine, arginine, and histidine, in a ratio of 100 : 20 : 100 : 35, wherein methionine/cysteine may be either methionine or cysteine.

47. (Currently amended) A transformed yeast strain to be used as a feed supplement for an animal, said transformed yeast strain being prepared by introducing into a host strain a nucleic acid polymer encoding a polypeptide under control of a promoter, ~~The transformed yeast strain of claim 29, wherein~~ said nucleic acid polymer, when expressed, producing ~~produces~~ a polypeptide comprising the following amino acid units: lysine, arginine, histidine, tryptophan, isoleucine, leucine, valine, phenylalanine/tyrosine, methionine/cysteine,

threonine, proline, and glycine/serine, in a ratio of 100 : 105: 37: 16: 67 : 111: 77: 105: 72: 67 : 33 : 67, wherein methionine/cysteine may be either methionine or cysteine with methionine constituting at least 50% of the sulfur-containing amino acids in the polypeptide, and phenylalanine/tyrosine may be either phenylalanine or tyrosine with phenylalanine constituting at least 50% of the aromatic amino acids in the polypeptide, and glycine/serine may be either glycine or serine.

48. (Currently amended) A transformed yeast strain to be used as a feed supplement for an animal, said transformed yeast strain being prepared by introducing into a host strain a nucleic acid polymer encoding a polypeptide under control of a promoter,~~The transformed yeast strain of claim 29,~~ wherein said nucleic acid polymer, when expressed, producing ~~produces~~ a polypeptide comprising the following amino acid units: lysine, arginine, histidine, tryptophan, isoleucine, leucine, valine, phenylalanine/tyrosine, methionine/cysteine, threonine, proline, and glycine/serine, in a ratio of 100 : 105: 37: 17: 67 : 111: 77: 105: 75 : 73: 20 : 50, wherein methionine/cysteine may be either methionine or cysteine with methionine constituting at least 50% of the sulfur-containing amino acids in the polypeptide, and phenylalanine/tyrosine may be either phenylalanine or tyrosine with phenylalanine constituting at least 50% of the aromatic amino acids in the polypeptide, and glycine/serine may be either glycine or serine.

49. (Currently amended) A transformed yeast strain to be used as a feed supplement for an animal, said transformed yeast strain being prepared by introducing into a host strain a nucleic acid polymer encoding a polypeptide under control of a promoter,~~The transformed yeast strain of claim 29,~~ wherein said nucleic acid polymer, when expressed, producing ~~produces~~ a polypeptide comprising the following amino acid units: lysine, isoleucine, methionine/cysteine, phenylalanine/tyrosine, threonine, tryptophan, and valine, in a ratio of 100 : 15 : 100 : 85 : 56: 18: 22, wherein methionine/cysteine may be either methionine or cysteine, and phenylalanine/tyrosine may be either phenylalanine or tyrosine.

50. (Currently amended) A transformed yeast strain to be used as a feed supplement for an animal, said transformed yeast strain being prepared by introducing into a host strain a

nucleic acid polymer encoding a polypeptide under control of a promoter.~~The transformed yeast strain of claim 29, wherein~~ said nucleic acid polymer, when expressed, producing ~~produces~~ a polypeptide comprising the following amino acid units: arginine, methionine, lysine, threonine, and histidine, in a ratio of 100 : 9: 53: 9: 23.